

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 3 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Tyskewicz (2,290,818). Tyskewicz teaches a muffler (Figure 5) comprising: a muffler body defining an expansion room (52); an upstream pipe (51), an end portion thereof is opened in the expansion room (52) (clearly seen); a downstream pipe (53-55), a first end portion (55) thereof is opened in the expansion room (52), and a second end portion (end near #53) thereof is opened outside of the expansion room (52); and an opening (#57, Examiner is referring to the opening #57 located on the lower portion of the downstream pipe between #54 and #55 in Figure 5) formed in a side face of the downstream pipe (53-55) in the expansion room (52), the opening (57) being formed in an elongated area (defined by opening #57) extending substantially along a main axis of the downstream pipe (53-55), wherein the end portion (end open to chamber #52) of the upstream pipe (51) and the first end (55) portion of the downstream pipe (53-55) are opened towards the same direction, wherein the opening (57) in the downstream pipe is positioned in an axial direction only between the end portion (portion open to chamber #52) of the upstream pipe (51) and the first end portion (55) of the downstream pipe (53-55), and wherein the elongated area (defined by opening #57) is directionally

stretched in a circumferential direction of the downstream pipe (53-55) (clearly seen) and is evenly distributed in a substantial main axis direction of the downstream pipe (53-55); wherein the elongated area (defined by opening #57) is a belt-like area; and wherein the opening (57) comprises a slit formed in the elongated area (Page 2; Col. 1, Line 64 - Col. 2, Line 9).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4, 8, 10, 11, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tyskewicz (2,290,818).

Regarding Claims 4 and 14, Tyskewicz is relied upon for the reasons and disclosures set forth above. Tyskewicz further teaches an opening (Figure 5, #57) in the form of a slit or slot, and further teaches openings (58) in the form of small holes. Tyskewicz's embodiment shown in Figure 5, and relied upon above fails to teach wherein the opening comprises a plurality of small holes formed in the elongated area; and wherein the small holes are substantially arranged at regular intervals in a main axis direction of the downstream pipe. However, Tyskewicz teaches wherein an opening (Figure 4, #46) comprises a plurality of small holes (46) formed in an elongated area; and wherein the small holes are substantially arranged at regular intervals in a

main axis direction of the downstream pipe (44). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Tyskewicz's embodiment shown in Figure 5, with the apparatus of Tyskewicz's embodiment shown in Figure 4, because Tyskewicz's teaches wherein holes such as Figure 5, #58 will perform equally as well as a slot such as #57, but the slot opening #57 was configuration was used because at the time of the invention in 1942, it easier to machine than holes #58 on a straight portion of a tube (Page 2; Col. 1, Line 64 - Col. 2, Line 9). Because the holes in Figure 4, #46 appear to be the same as the holes in Figure 5, #58, such a modification would have been an obvious matter of design choice.

Regarding claims 8, 10, 11 and 13, Tyskewicz teaches the opening has an opening ratio in a range from 10% to 20%. Tyskewicz fails to teach the opening has an opening ratio in a range from 20% to 40%. However, It would have been obvious to one of ordinary skill in the art at the time the invention was made to have an opening ratio in a range from 20% to 40%, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working range involves only routine skill in the art. In re Aller, 105 USPQ 233.

3. Claims 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tyskewicz (2,290,818) in view of Macaluso (4,735,283). Tyskewicz is relied upon for the reasons and disclosures set forth above. Tyskewicz further teaches and expansion room (Figure 5, #52). Tyskewicz fails to teach wherein the expansion room of the muffler body is partitioned into a first expansion chamber, a second expansion chamber and a third expansion chamber by a first baffle plate and a second baffle plate.

Macaluso teaches an expansion room (Figure 1, interior muffler #1) of a muffler body (1) is partitioned into a first expansion chamber (19), a second expansion chamber (17) and a third expansion chamber (15) by a first baffle plate (13) and a second baffle plate (11) (Col. 1, Line 51 – Col. 2, Line 36). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Nilsson, with the apparatus of Macaluso to support the pipes and provide further sound reduction, as is well known in the art when constructing mufflers.

Response to Arguments

4. Applicant's arguments with respect to claims 1, 3, 4, 7, 8, 10, 11, 13, 14 and 17 have been considered but are moot in view of the new ground(s) of rejection. The Examiner considers the obvious combination of Tyskewicz and Macaluso to teach all of the limitations as claimed by Applicant.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pertinent arts of record relating to mufflers are disclosed in the PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy Luks whose telephone number is (571) 272-2707. The examiner can normally be reached on Monday-Thursday 8:30-6:00, and alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on (571) 272-1988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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